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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,670	03/28/2001	Sorcha O'Callaghan	922-126	2387

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ARLINGTON, VA 22203

EXAMINER
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SHEW, JOHN

ART UNIT	PAPER NUMBER
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2664

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/818,670

Applicant(s)

O'CALLAGHAN ET AL.

Examiner

John L. Shew

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 1/20/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-5 and 8-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

A new ground(s) of rejection is presented in light of newly found references in an update prior art search.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 3, 4, 5, 8, 9, 10, 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Yang et al. (Patent No. 5917819).

Claim 3, Yang teaches a network switch for receiving data packets including header portions (Abstract lines 1-13, Fig. 1, col. 2 lines 39-51) referenced by the ATM Switch 8 receiving ATM cells inclusive of a header used for determination of I/O Modules, and for selectively forwarding said data packets (col. 1 lines 48-57) referenced by the forwarding of the cell to the appropriate IOMs for transmission, said switch comprising a register for receiving a header portion of a packet (Fig.1, col. 2 lines 39-51) referenced by the ATM Cell 24 received by the I/O Module 10, a look-up engine operative to obtain associated data in response to the header portion (Fig. 1, col. 2 lines 38-45) referenced

by the Translation Circuit 18 with an Identifier Lookup Table 20, wherein said associated data includes an initial port bitmask (Fig. 3, col. 3 lines 20-27, Fig. 6, col. 4 lines 64-67, col. 5 lines 1-25) referenced by the IOM bits 30 and Multicast ID bits 28 which constitute a bitmask that determines the respective IOM wherein the setting IOM is initially performed at step 70 and Assign MID is performed at step 72, and a network processor which is operative to perform a processing function in response to at least one of said header portion and said associated data (Fig. 1, col. 2 lines 38-45) referenced by the Translation Circuit 18 to perform identifier lookup of the ATM cell, said network processor executing said processing function to cause modification of said initial port bitmask (Fig. 1, Fig. 4, col. 3 lines 60-67, col. 4 lines 1-12) referenced by the CID/bitmask Lookup Table 14 and subsequent CID 48 overlaid on the MID in the local header, wherein said look-up engine provides for said network processor a first indication said first indication indicating that said associated data has been obtained (Fig. 6 col. 5 lines 15-40) referenced by the completion of first stage processing of a multicast cell block 66 inclusive of Setting IOM Bits step 70 and Assign MID step 72 with subsequent processing by the Forward To Switch Fabric step 73, and said network processor is operative in response to said first indication to execute said processing function (Fig. 6 col. 5 lines 15-40) referenced by the completion of first stage processing of a multicast cell block 66 inclusive of Setting IOM Bits step 70 and Assign MID step 72 with subsequent processing by the Forward To Switch Fabric step 73, and to provide to said look-up engine a second indication said second indication indicating that said function has been executed (Fig. 1, Fig. 6, col. 5 lines 40-67, col. 6 lines 1-3) referenced

by the use of the CID/bitmask Lookup Table 14 to Get New CID step 80 for bitmask overlay wherein the CID LSB=0 step 82 constitutes a second function completion indication.

Claim 4, Yang teaches wherein said look-up engine in response to said second indication causes the provision of a final port bitmask for said packet (Fig. 5, Fig. 6, col. 5 lines 51-67, col. 6 lines 1-18) referenced by the CID LSB=0 step 82 wherein the determination if the 3 LSB's of the local CID equals 0 then the cell is multiport-multicast transmitted based on the port bitmask from the MID/port bitmask Lookup Table 14 which constitutes a final port bitmask.

Claim 5, Yang teaches wherein said associated data includes a field indicating replication of the packet (Fig. 3, col. 3 lines 20-30) referenced by the MC field 32 which represents multicast data cell, and wherein said network processor is operative to access said field and to control a replication process for the packet (col. 3 lines 60-67, col. 4 lines 1-12) referenced by the processing of the multicast cell using the CID/bitmask Lookup Table 14 in determination of the IOMs and ports for multicast transmission.

Claim 8, Yang teaches a network switch for receiving data packets including header portions (Abstract lines 1-13, Fig. 1, col. 2 lines 39-51) referenced by the ATM Switch 8 receiving ATM cells inclusive of a header used for determination of I/O Modules, and for

selectively forwarding said data packets (col. 1 lines 48-57) referenced by the forwarding of the cell to the appropriate IOMs for transmission, said switch comprising a register for receiving a header portion of a packet (Fig.1, col. 2 lines 39-51) referenced by the ATM Cell 24 received by the I/O Module 10, a look-up engine operative to obtain associated data in response to the header portion (Fig. 1, col. 2 lines 38-45) referenced by the Translation Circuit 18 with an Identifier Lookup Table 20, wherein said associated data includes an initial port bitmask (Fig. 3, col. 3 lines 20-27, Fig. 6, col. 4 lines 64-67, col. 5 lines 1-25) referenced by the IOM bits 30 and Multicast ID bits 28 which constitute a bitmask that determines the respective IOM wherein the setting IOM is initially performed at step 70 and Assign MID is performed at step 72, and a network processor which is operative to perform a processing function in response to at least one of said header portion and said associated data (Fig. 1, col. 2 lines 38-45) referenced by the Translation Circuit 18 to perform identifier lookup of the ATM cell, said network processor executing said processing function to cause modification of said initial port bitmask (Fig. 1, Fig. 4, col. 3 lines 60-67, col. 4 lines 1-12) referenced by the CID/bitmask Lookup Table 14 and subsequent CID 48 overlaid on the MID in the local header, wherein said look-up engine provides for said network processor a first indication said first indication indicating that said associated data has been obtained (Fig. 6 col. 5 lines 15-40) referenced by the completion of first stage processing of a multicast cell block 66 inclusive of Setting IOM Bits step 70 and Assign MID step 72 with subsequent processing by the Forward To Switch Fabric step 73, and said network processor is operative to provide to said look-up engine a second indication said second

indication indicating that said modification has been performed (Fig. 1, Fig. 6, col. 5 lines 40-67, col. 6 lines 1-3) referenced by the use of the CID/bitmask Lookup Table 14 to Get New CID step 80 for bitmask overlay wherein the CID LSB=0 step 82 constitutes a second function completion indication, and said look-up engine is operative after providing said first indication to wait for said second indication before performing any further operation on said packet (Fig. 6, col. 5 lines 12-67, col. 6 lines 1-18) referenced by the required sequential operation of multicast block 66 for the first indication followed by Get Port Bitmap step 76 and Get New CID step 80 for the second indication necessitates the processor must wait at each stage before proceeding with the operation.

Claim 9, Yang teaches wherein said look-up engine in response to said second indication causes the provision of a final port bitmask for said packet (Fig. 5, col. 3 lines 44-67, col. 4 lines 1-12) referenced by the overlay of the CID 48 on the MID in the local header and subsequent generation of a final port bitmask 36 for transmission to the appropriate port.

Claim 10, Yang teaches wherein said associated data includes a field indicating replication of the packet (Fig. 3, col. 3 lines 20-30) referenced by the MC field 32 which represents multicast data cell, and wherein said network processor is operative to access said field and to control a replication process for the packet (col. 3 lines 60-67, col. 4 lines 1-12) referenced by the processing of the multicast cell using the

CID/bitmask Lookup Table 14 in determination of the IOMs and ports for multicast transmission.

Claim 11, Yang teaches a method of operating a network switch for receiving data packets including header portions (Abstract lines 1-13, Fig. 1, col. 2 lines 39-51) referenced by the ATM Switch 8 receiving ATM cells inclusive of a header used for determination of I/O Modules, and for selectively forwarding said data packets (col. 1 lines 48-57) referenced by the forwarding of the cell to the appropriate IOMs for transmission, said method comprising receiving a header portion of a packet (Fig. 1, col. 2 lines 39-51) referenced by the ATM Cell 24 received by the I/O Module 10, operating a look-up engine to obtain associated packet forwarding data in response to the header portion (Fig. 1, col. 2 lines 38-45) referenced by the Translation Circuit 18 with an Identifier Lookup Table 20, said forwarding data including an initial port bitmask (Fig. 3, col. 3 lines 20-27, Fig. 6, col. 4 lines 64-67, col. 5 lines 1-25) referenced by the IOM bits 30 and Multicast ID bits 28 which constitute a bitmask that determines the respective IOM wherein the setting IOM is initially performed at step 70 and Assign MID is performed at step 72, providing from said look-up engine to said network processor a first indication said first indication indicating that said associated packet forwarding data has been obtained (Fig. 6 col. 5 lines 15-40) referenced by the completion of first stage processing of a multicast cell block 66 inclusive of Setting IOM Bits step 70 and Assign MID step 72 with subsequent processing by the Forward To Switch Fabric step 73, executing a processing function by means of a network processor in response to at



least one of said header portion and said associated packet forwarding data (Fig. 6 col. 5 lines 15-40) referenced by the completion of first stage processing of a multicast cell block 66 inclusive of Setting IOM Bits step 70 and Assign MID step 72 with subsequent processing by the Forward To Switch Fabric step 73, said processing function including modification of said initial port bitmask (col. 3 lines 60-67, col. 4 lines 1-12) referenced by the CID overlay on the MID in the local header which constitutes modification of the port bitmask, operating said network processor in response to said first indication to cause said modification of said associated packet forwarding data (col. 3 lines 60-67, col. 4 lines 1-12) referenced by the CID overlay on the MID in the local header which determines the appropriate ports for the multicast transmission, providing to said look-up engine a second indication said second indication indicating that said modification has been performed (Fig. 1, Fig. 6, col. 5 lines 40-67, col. 6 lines 1-3) referenced by the use of the CID/bitmask Lookup Table 14 to Get New CID step 80 for bitmask overlay wherein the CID LSB=0 step 82 constitutes a second function completion indication, delaying any further operation of said look-up engine in relation to said packet until said second indication is received by said look-up engine (Fig. 6, col. 5 lines 12-67, col. 6 lines 1-18) referenced by the required sequential operation of multicast block 66 for the first indication followed by Get Port Bitmap step 76 and Get New CID step 80 for the second indication necessitates the processor must wait at each stage before proceeding with the operation, and in response to said second indication providing by means of said look-up engine a final port bitmask for said packet (Fig. 5, col. 3 lines 44-67, col. 4 lines 1-12) referenced by the overlay of the CID 48 on the MID in the local

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header and subsequent generation of a final port bitmask 36 for transmission to the appropriate port.

### ***Citation of Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patent No. US 6335935 B2, Kadambi et al. discloses a network switching architecture with fast filtering processor. Patent No. US 6181699 B1, Crinion et al. discloses an apparatus and method of assigning VLAN tags

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John L. Shew whose telephone number is 571-272-3137. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

js

A handwritten signature in black ink, appearing to read "Frank Duong", with a stylized, cursive script.

**FRANK DUONG**  
**PRIMARY EXAMINER**